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ABSTRACT

This study explored the experiences of six preservice teachers who participated as interns in a Professional Development School (PDS), examining how they understood and made sense of their experience of learning teach in a PDS context. Researchers used a phenomenological case study with narrative inquiry, collecting data from interviews, field notes, documents, journals, and Web-based portfolios over 12 months. Analysis of the data indicated that interns portrayed learning to teach as two distinct yet connected processes: (1) learning about teaching and learning how to teach and (2) learning about how to be a teacher. Within these two processes, there were three main themes: unlocking practitioners' knowledge and skills, thinking and doing, and understanding how children think and learn. As respondents learned about how to be a teacher, six themes emerged: shaping a transitory teacher identity, negotiating the college student role and PDS intern role in the school-university partnership, building teacher expectations, establishing community relationships, fostering home and school relationships, and exploring ownership of the curriculum. (Contains 75 references.) (SM)

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Learning to teach: The lived experience of being an intern in a professional development school.

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Abstract

The purpose of this study was to explore the experiences of six preservice teachers who participated as interns in a professional development school. This research provides a basis for analyzing the contribution that the practicum offers for learning to teach, and teaching to learn, in the context of a professional development school program. The research question driving this study was: How do interns understand and make sense of their experience of learning to teach in a Professional Development School (PDS) context?

This study employed a qualitative methodology to chronicle the experiences of these interns who were participants in a teacher preparation program between a research university and a public school district in Northeastern U.S. A phenomenological case study with narrative inquiry framed and guided the study's design. Data, consisting of interviews, field notes, documents, journals, and web-based portfolios, were collated over a twelve month period. Through a prolonged and iterative process of data analysis that entailed describing, analyzing, and interpreting, the researcher documented the understandings of this particular PDS internship experience from the interns' perspective. As a tool for describing, analyzing, and interpreting the data, this study integrated NVIVO (Richards & Richards, 1999), a computer software program for the purposes of organizing, coding, analyzing and interpreting qualitative data.

Through the within-case analysis, interns portrayed learning to teach as two distinct, yet connected processes: 1) learning about teaching and learning how to teach, and 2) learning about how to be a teacher. Specifically, in learning about teaching and learning how to teach, three themes emerged: unlocking expert practitioners' knowledge and skills, thinking and doing, and understanding how children think and learn. As they learned about how to be a teacher, six themes emerged: shaping a transitory teacher identity, negotiating the college student role and PDS intern role in the school-university partnership, building teacher relationships, establishing community relationships, fostering home and school relationships, and exploring ownership of the curriculum.

The researcher's interpretation of the interns' voices reveals four assertions that make sense of their collective experience. First, becoming a teacher involves learning about teaching, about how to teach, and about how to be a teacher and is a complex and individualized process that can at times be overwhelming. Second, a cycle of observing-teaching-reobserving-reteaching- facilitates preservice teachers' understanding of the principles of teaching and learning, and structures opportunities for interns to help their mentor teachers learn how to improve their mentoring skills. Third, at the end of the internship experience PDS interns attain a stage of preservice teacher development that is beyond 'mastery' (Sacks & Harrington, 1982). As they actively question and seek to understand their own and children's conceptual understanding, PDS interns explore how they effectively support and enhance children's learning. And, last, as they question curriculum and model inquiry to support children's learning, and raise their own and their children's voices, the PDS interns adopt a stance as teacher leaders.

Current initiatives are examining how creating and sustaining learning communities of teachers enhances success for our increasingly diverse school student population. During the 1990's the shape of teacher educational practices has changed, creating a new mindscape about how best to prepare teachers. The study of preservice teacher preparation situated in a professional development school (PDS) program focuses attention on contextual learning and teaching. Such research raises novice teachers' voices about their understanding of the process of learning to teach. If we want to understand how, what, and why preservice teachers learn from a field-based practicum in a particular context, then teacher educators need to investigate what the experience was like from the interns' perspective, and what sense these preservice teachers made of it. The existing PDS literature points to the need to deconstruct the interns' yearlong experiences if we are to understand and recreate that experience for others. The multifaceted and convoluted nature of this internship demands that researchers seek to understand the impact of such experiences on the preparation of preservice teachers. The purpose of this study was to explore how six preservice teachers, hereon known as interns, understand and make sense of their experience of learning to teach in a professional development school context?

It may be useful to state that this paper is not intended to provide a comparison between learning to teach in a traditional student teaching setting and that emerging in the context of the PSU-SCASD Professional Development School program. My intention here is to offer ways of thinking about a process of learning to teach that is illustrated by newly emerging understandings portrayed by preservice teachers living this PDS experience. This mindscape for understanding such experiences is shaped by the images and assumptions that underlie the educational purposes of learning to teach and teaching to learn in a Professional Development School program: developing interpersonal and working relationships for novice and experienced educators, undertaking genuine problem-solving skills to work toward common goals, developing a shared vocabulary, and understanding how using inquiry to analyze teacher thinking and behaviour assists teachers shape schooling experiences for children that enhance success.

It is worthwhile to note that although I have drawn on selected research from the voluminous and historical learning to teach scholarship, the unit of analysis is the individual intern's conception of learning to teach. The paper focuses on what learning to teach looks like from the perspective of interns who participated in a yearlong PDS internship.

Context of the PDS Community

The establishment of two professional development schools in 1998-99, and the further addition of two other elementary schools in 1999-2000 was the culmination of a six-year planning program centered on nurturing relationships between the State CollegeArea School District and the Pennsylvania State University. This partnership grew from the shared vision of an initiating group of faculty and administrators from this university, and principals and teachers from this school district. The members of this community believed that their collaborative efforts could result in better teacher preparation opportunities for preservice teachers and enhanced learning environments for the children in the public school system of this area.

The participants in this research were senior education undergraduates who completed a yearlong internship in the Professional Development School partnership. While the six interns were from Pennsylvania, Diana and Kathryn grew up in small, rural communities. Caran and Sally attended suburban K – 12 public schools. Colleen spent her earlier educational experiences in an urban setting, and Mark was a non-traditional student who had previously worked in the music industry. The process of selecting

and matching each intern with a mentor teacher/s for the yearlong internship was co-ordinated by team of university faculty and mentor teachers. The interns commenced the program in the mid-August and followed the school district's calendar for the duration of the school year. All six interns graduated at the end of the university academic year and continued to teach until the last school day in June.

Personal Bias

In response to Wideen, Mayer-Smith and Moon's (1998) call for authors to 'go public' about their sociocultural location and value commitment, and discuss, and perhaps problematize, their beliefs about preservice teachers, teacher education, and the interventions they have designed" (p. 163), I outline (somewhat briefly) my commitment to PDS work as a researcher and a Professional Development Associate. In adopting a qualitative inquiry stance, I respect the importance of "looking inside to become aware of personal bias" (Patton, 1990, p. 407). Similarly, Merriam (1998) elaborates this process as the researcher acknowledging "prejudices, viewpoints or assumptions regarding the phenomenon under investigation" (p. 158).

One bias that I must address is my personal pro-professional development school stance. I believe that professional development schools can benefit all the stakeholders. It is my opinion that the professional dialogue generated in a community for learners enables new knowledge and understandings to be built by the participants, thus facilitating inquiry and professional growth. However, I am not advocating a PDS learning community experience is essential for all preservice teachers, nor am I using this research to make such a claim.

Dual role

The nature of the research necessitated that I perform two roles. As a teacher educator, known in this program as a Professional Development Associate (PDA), I provided supervisory support for the professional development of the interns and the mentor teachers. I visited the school sites daily for the duration of the internship, conducted observations of the interns, spent time in the classroom with the mentor teacher, intern, and children, and when requested co-taught with the mentor and/ or intern.

In monitoring each intern's progress, I was aware of my somewhat contradictory PDA supervisory responsibilities: to assist interns to analyse their transitory teaching identities and emergent practices, and to assess (collectively with the intern and the mentor teacher) their teaching performance. In the cases of three of the six research participants, I was ultimately responsible for allocating a student teaching grade.

The second role I played was one of participant observer. Being a member of the learning community necessitated the participant aspect of my researcher's role. My challenge was "to combine participation and observation so as to become capable of understanding the learning community experience as an insider while interpreting the experience from an outsider's perspective" (Patton, 1990, p. 207).

The common goal the researcher and PDA shared was that of advocate for the members in the PDS community. I sought to understand the interns' supervisory experiences in as great a depth as they were prepared to share. This meant building and sustaining professional relationships, regardless of my role. I found no compelling evidence to suggest that this dual-role of researcher and PDA adversely affected the authenticity of the experiences of the participants or the validity of the data collection process.

Theoretical framework

This exploratory research employed a phenomenological case study described by Moustakas (1994) as an "empirical approach involving a return to experience in order to obtain comprehensive descriptions that provide the basis for a reflective structural analysis that portrays the essences of the experience" (p. 13). The supervisory relationships of the six interns with their mentor teachers defined the bounded case study (Merriam, 1998). Although I have drawn on selected research from the voluminous and historical supervision scholarship, the unit of analysis is the individual intern's perception of supervision.

Data collection and analysis

Participant observation, extensive field notes, document analysis, and six semi-structured individual interviews were used to portray the supervision process from the interns' point of view. All transcriptions were analyzed using Nvivo computer software (Richards, 1999). Multiple readings identified categories (Patton, 1990) that emerged within each intern's narration. Line by line analysis of the transcripts resulted in the definition and construction of conceptual categories at "free nodes" and then to "nodes" in the tree-structure. I developed memos, defined as further data, to record category development and my ongoing thinking and attached these to indexing categories. Finally, I framed and tested themes and assertions from the within-case analysis through support provided by Nvivo's concept modeling function. Additionally, data analysis probed for contradicting and sanctioning evidence for the themes (Erickson, 1986).

In addition to the transcriptions being reviewed by the participants, three member checks were conducted. As the narratives were written, each intern was asked to read and give feedback. During the second member check, coded data from the within-case analysis were distributed for review. Finally, a third member check was conducted of the assertions drawn from the researcher's interpretation. These were submitted to the six interns for comment. Prior to publication, the interns were asked to validate the accuracy and authenticity of the researcher's "thick description" (Patton, 1990). The interns suggested grammatical changes, but did not make any specific modifications to alter the meaning of the text. In conjunction, data were triangulated with another researcher who was similarly exploring the experience of interns in the same PDS program.

Findings

Because the reported research on PDS interns' experiences of learning to teach in a yearlong Professional Development School internship is truly embryonic, much of the literature woven through the text is drawn from learning to teach in traditional student teaching contexts.

The PDS interns portrayed learning to teach as two distinct, yet connected, processes: 1) learning about teaching and how to teach, the focus of the first part of these findings, and 2) learning to be a teacher, detailed in the latter section of the findings (Knowles, Cole, & Presswood, 1994).

Learning about Teaching and Learning How to Teach

The interns portrayed learning about teaching and how to teach in the PDS context as a process from which these themes emerged:

- unlocking expert practitioners' knowledge and skills;
- thinking and doing, and
- understanding how children think and learn.

Table 1
Emergent Themes: Learning about teaching and learning about how to teach

Themes	Sub-themes
1. Unlocking expert practitioners' knowledge and skills	• focused observation, modelling, and dialectic sharing • Reciprocal roles of teaching and observing • Co-planning and co-reflecting
2. Thinking and doing	• Collecting ideas and thinking about doing • Practice and reflection
3. Understanding how children think and learn	• Knowing children • Getting inside children's heads

Unlocking Practitioners' Knowledge and Skills

Teacher educators generally assume that knowledge and skills exist independently of the contexts in which they are acquired (Feiman-Nemser & Remillard, 1996). The notion that teachers can first learn concepts and skills and then apply them in real world teaching situations reflects this assumption. Cognitive psychologists (for example, Brown, Collins, & Duguid, 1989; Lave, 1989; Lave & Wenger, 1991; Resnick, 1991) have challenged this notion by claiming that all knowledge is situated in and grows out of the contexts of its use. Besides providing a compelling explanation for why teachers use so little of what they are taught in traditional teacher preparation programs, the theory of situated cognition directs teacher educators to embed learning to teach experiences in "authentic" activity (Brown, Collins, & Duguid, 1989), for example, a school-based practicum.

Theories of cognitive apprenticeship learning suggest that preservice teachers have "the opportunity to observe, engage in, invent, or discover expert strategies in the context of their eventual use" (Ethell & McMeniman, 2000, p. 90). The term 'cognitive apprenticeship' has been "applied to classroom-based instructional models that incorporate authentic activity, social interaction, collaborative learning, and a teacher/coach who makes his or her thinking visible for the learner (s)" (Feiman-Nemser & Remillard, 1996, p. 82). Student teaching and internships are examples of cognitive apprenticeship, where the preservice teacher's learning is "situated" in the context of practice.

Learning to teach requires that novice teachers access the minds, not only the observable behaviours, of effective teachers. Educational psychologists (Fitts & Posner, 1967; Anderson, 1990) assert that the procedural knowledge of expert teachers is to a large extent "unarticulated, tacit in nature, and grounded in experience" (Ethell & McMeniman, 2000, p. 88). As experience grows, expert practitioners find it more challenging to explain their procedural knowledge. The implications of this provide a challenging paradox for novice teachers. In order to make sense of what is happening in the classroom, preservice teachers must figure out ways to unlock the procedural knowledge of expert teachers. While they may not know what this procedural knowledge is, preservice teachers need to give cues to their mentor teachers. As they inquired into classroom teaching practices, the interns in this study patterned ways to access the tacit knowledge of their expert mentor teachers, PDAs, and other

practitioners in the PDS community. Focused observing, modeling, and dialectic sharing, playing the reciprocal roles of teaching and observing, and co-planning and co-reflecting were modus operandi through which the interns enabled expert teachers to make explicit their understandings of learning and teaching.

Focused Observing, Modelling, and Dialectic Sharing

The interns observed and conversed with expert practitioners to gain access to the cognitive thinking that guided the expert teacher's decision-making. As she observed her mentor teacher guide the children through a language workshop, Colleen sat in the back of the room collecting data on how Karen [her mentor teacher] structured a whole-group lesson. Initially, Colleen felt more comfortable observing with a focus as it allowed her time to generate questions for co-reflecting with her mentor afterwards. At the end of the lesson,

> We reflected together about the data I noted. I asked her questions about why she called on particular children to answer questions. I'm comfortable in front of the kids. I'm just not exactly comfortable with how you teach to a whole group all the time. (Colleen, Interview, December 1999).

Diana believes that by focusing on how her mentor teacher interacted with the children she could understand "what verbal and non-verbal cues were working for them. I noted these, and afterwards, Margaret [answered] my questions about my observations. Watching and listening to specific classroom interactions [helped] me to focus the questions I [wanted] to ask Margaret. She says it makes it easier for her to talk about parts of the lesson when I have specific questions" (Diana, Interview, October 1999).

Likewise, Sally said, "as I watched Euon teach math lessons and hear how he talked about fractions, I noticed the different language he used to pose questions for the children. I am realizing why language is important for understanding how children learn conceptually. When I asked about his statements, Euon explained to me why he used those words and questions as part of his assessing what the children understand" (Sally, Interview, December 1999).

As they built their knowledge and skills for working with small groups of children, several of the interns found that the following cycle greatly assisted them in understanding their mentor teachers' thinking and doing:

- ✓ focus observation of mentor teacher with three or four children,
- ✓ work with a similar number of children and make mental notes of what was happening,
- ✓ share ideas with mentor teacher who contributed to the conversation by posing questions to the intern,
- ✓ try the same or similar activity with another group of children, and finally,
- ✓ co-reflect with mentor teacher again.

A final piece of evidence supports the significance of focused observing, modeling, and dialectical sharing. As her mentor teacher modeled the repetition and practice of a mathematics concept, Caran reflected on her own mathematics learning experiences as a high school student.

> I remember how I felt in high school when my teachers breezed through mathematical concepts at the pace of the fastest students in the class, leaving the rest of us far behind

and struggling. (Caran, Journal entry, September 1999)

As she questioned her mentor teacher and reflected on this practice, Caran realized why her mentor teacher asked a child to restate an understanding. Caran recognized the value this contributed to her own teaching practice, explaining,

> It really helps *all* the students understand what she [mentor] is teaching. I have been watching her do this the past two weeks. I realized during my lesson that I was doing some of the same things. For instance, there was one point when I asked the students a question, and someone gave an incorrect answer. Therefore, when another student gave the right answer, I asked him to repeat his answer again. When he did that, he said it in slightly different words. I hope that this may have helped the student(s) who were confused to better understand what we were discussing. (Caran, Journal entry, September 1999)

Reciprocal Roles of Teaching and Observing

In traditional student teaching contexts, the process of learning to teach usually involves a one-way 'handing-over' of roles and responsibilities to the student teacher. As the novice teacher takes on more of the classroom teaching activities, the expert teacher adopts the role of the observer. When the intern and the mentor teacher paired up in the PDS context, constantly changed their teaching and observing roles, the interns realized the contribution that this exchange offered for helping the mentor teachers to articulate their procedural knowledge. Kathryn and Jayne adopted a pattern of one leading the morning meetings three times a week, while the other observed, and exchanging roles of teacher and observer for the other two days. Their thinking behind this decision was embedded in the belief that the constant exchange of perspectives between observing and teaching generated conversations that enabled them to expose the expert teacher's practice. Further, co-reflection-on-action (Schon, 1987) helped the intern make sense of what they had observed and taught. Mentor teachers and interns believed that deepening their conversations about each other's teaching practices assisted the interns in recognizing what worked and what did not work to promote children's learning. Further, this process enabled the interns to build their understanding of children's conceptual knowledge.

Collaborative conversations as a means for learning and for supporting learning are grounded in theories that suggest that personally meaningful knowledge is socially constructed through shared understandings (Vygotsky, 1978) and indicate the critical and contextually relevant nature of the social use of knowledge (Zeichner & Gore, 1989). Vygotsky's theory (1978) of assisted performance in the zone of proximal development (ZPD) accounts for how learning occurs through social interaction with a more capable other. The ZPD is the distance between what an individual can do independently and what he or she can do with assistance. Assistance from and cooperative activity with a teacher, expert, or more capable peer enables the learner to perform at levels beyond his or her level of independent performance. Knowledge and skills that initially exist in the interaction between the novice and the more capable other eventually get internalized by the learner. While Vygotsky's theory primarily focuses on children's learning, Tharp and Gallimore (1988) suggest that identical processes impact the way the preservice teachers learn to teach. Kathryn described how observing Jayne and trying her techniques out herself during morning meetings helped her to "figure ways to break down a teaching skill into steps, work on one part at a time, and then pull it all together" (Kathryn, Interview, February 2000). Shared conversations about observing and teaching morning meetings gave Kathryn an opportunity "to get inside Jayne's head to relate what ideas she had on my way of learning to teach" (Kathryn, Interview, February

2000). Kathryn's focus was

> on creating extensions to the routines the children already knew. I watched Jayne make extensions out of what the children do with the charts, graphs, and morning letters, but was hesitant to do this on my own. Today, Jayne introduced fact families to the class as a mini-lesson. I asked her why she decided to do that. It reinforced what the children were learning in mathematics. Today, when it was my turn to lead the meeting, I actually made an extension of the lunch chart that gave every child a chance to respond. (Kathryn, Journal entry, March 2000)

Co-planning and Co-reflecting

Co-planning with their mentor teacher(s) guided the interns toward an avenue of access to their classroom experts' thinking and beliefs. Before she wrote out her formal lesson plan, Colleen and her mentor teacher shared visual images of what each thought the lesson would look like. As they brainstormed possibilities, Colleen and Karen "thought through every aspect of the lesson, including transitioning the children from one activity to the next, the materials, the culminating task, and assessing the children's understanding" (Colleen, Interview, December 1999). Colleen wrote up the formal lesson plans and presented this to her mentor teacher for feedback.

> That's how we would plan for something that I did. Karen's lesson plans are in-depth notes. I need to understand all the steps that she carries around in her head. Her planning is a lot more mental and less physically writing things out. She talks me through her mental plan, and I ask questions. (Interview, December 1999)

Further evidence that co-planning and co-reflecting made visible the expert teacher's thinking was found in the interns' efforts to help their mentor teachers explain how lesson objectives and the State and National Standards connected with the children's learning and the curricula. Diana felt that she had the pieces of the puzzle: the lessons, the standards, children's needs and interests, and the curriculum units, but she was really frustrated with understanding how these fit together. Finally, she and Margaret

> discovered what was really getting me. I understood that lessons were one level of organization, but Margaret had all the preceding levels of mental organization that led up to this lesson. I, on the other hand, had none of that experience. I didn't understand anything that came before the lesson. I didn't understand the global objectives, how to reach the objectives, or how the lesson was going to teach the objective. I could design activities and assess the children's understanding from those activities. However, I didn't see how it connected to the bigger picture of children's learning, where that learning was, or needed to go. Margaret talked me through the lessons of the curriculum unit and assessing the children's learning. And it clicked ... I could see the whole puzzle, as ragged around the edges as it was. I could see it!
>
> I know how to figure out children's understanding. I can understand where I want the children's understanding to be moved to, and I have the activities with the standards and objectives connected. Instead of seeing them as a triangle that was connected together, I saw it as chronological. Knowing children was the first step. The children's understanding was next. But I didn't understand that at the beginning. The activity was the second step, which was blurred because I didn't know where the children's understanding was. I remember the satisfaction of finally starting to see the connections. I

> understood the different things that I would have to consider in order to make the lesson work, and how it fit together. I remember like the feeling of relief. (Diana, Interview, June 2000)

Margaret realized that even if she had produced all the documentation and told Diana all she understood, none of it would have made sense to Diana. Diana had to work out what she needed and understood with respect to her own classroom experiences in order to make sense of her own learning as a novice teacher.

> I had to struggle through that confusion to figure out the questions I needed to ask Margaret in order for her to help me understand. (Diana, Interview, June 2000)

Thinking and Doing

As they collected teaching ideas, and engaged in practice and reflection, interns constructed their teaching philosophies. Further, in exploring how their thinking and doing were connected, interns connected these emerging beliefs to their classroom behaviour and practices.

Collecting Ideas and Thinking about Teaching

Initially, the interns conceived of learning to teach as 'learning about teaching.' Like many novice teachers in a traditional teacher preparation program, who consider student teaching to be time to collect a repertoire of strategies and skills (Johnson, 1994), these interns initially described themselves as "huge sponges ready to take in new ideas and different ways of managing classroom experiences" (Diana, Interview, September, 1999). Similarly, Mark defined learning to teach as "soaking up" different teaching strategies and "filing them for future use" (Interview, October, 1999).

> If I see something happen where a child learns and I didn't know about it, I soak it up. Whether it's the right way or the wrong way, I see it happen. If the teacher does it another way, then I have two options, my way or the teacher's way. If there's something that she does that I don't really like, I learn how I don't want to use it in my classroom. I am building a repertoire. I decide what I am going to throw into my suitcase. Some of these I will use tomorrow, and some maybe later. (Mark, Interview, October 1999)

Closely related to this thinking is the expectation by many novice teachers that simply being in the presence of an expert and exemplary teacher means that effective teaching strategies "will be fed to me" (Mark, Interview, September 1999). Mark believed that the way he would passively learn about teaching would be by

> being matched with this perfect mentor teacher. We'd work together, and I'd have this blossoming experience as a teacher. I'd turn out to be the best teacher that I could. My mentor teacher would provide me with all these experiences and great ideas that would feed and nurture me. (Interview, September 1999)

At the beginning of the internship, the interns focused on learning about teaching as a process that is supposed to be "fun for the learners, interns and children" (Sally, Interview, September 1999). The interns associated learning about teaching as enjoyable and shaped "by having fun with children" (Mark, Interview, September 1999). For Mark, learning about teaching was dependent on his enjoying the experience. If he did not enjoy the time spent learning, then he assumed the children did not either. As he observed a teacher in another classroom, Mark pondered factors that supported effective learning.

> It's more fun. It seems like the kind of place you want to be in. It's more conducive to everything that's good about learning. Learning is positive and fun. I want to learn more. (Mark, Interview, October 1999)

Mark and Sally both wanted to learn about teaching, but were reluctant to actively question their learning or teaching style, or to modify these to meet the children's learning needs. Learning about teaching and how to teach demands that interns actively confront their preferred learning styles and those of the children in their classrooms. It means trying to match, in many different ways, teaching strategies and instructional practices with children's learning needs. Sally's and Mark's struggles illustrate the tensions preservice teachers experience as they undertake two simultaneous, and seemingly incongruent roles: first, as a learner of teaching with their unique learning style, and second, as a novice teacher supporting children's multiple learning styles. As they sought to balance this duality, the interns figured out ways to explore and negotiate these roles. With guidance from their mentor teachers and PDAs, the interns analyzed and reflected on their classroom experiences to make "public the tacit thinking and feeling of both teachers and students" (O'Hair & Odell, 1994, p. 80). Co-teaching experiences facilitated this process. In this way, interns moved beyond wanting to learn about teaching and how to teach by means of passive osmosis. The following excerpt shows how Diana adopted an active and reflective process that met both her learning needs and those of the children in her classroom.

> I am a learner, too. We are all learners in Room 15. However, I am an extra special learner. I need to learn to teach, and at the same time teach to learn. I am responsible for these children's learning. It is different to mine, but we are all learners. Being a learner and a teacher at the same time is not easy. Life-long learning rolls off the tongue so easily, but doing it is another thing. I have to find the spaces in my classroom to be a learner and be a teacher. The way I teach may not necessarily be the way I like to learn. Does that make sense? Margaret shows me how we can do this. She uses some strategies I like, and others that I do not. She suggested that I try to teach a group one way and then try another. I have to figure out what works for me, and what works for the children. I teach the children. I ask them for feedback, and I think about it. I describe to Margaret and Bettina how I taught the center, and they ask me questions. Margaret said, find a balance, but remember my role is to help the children learn. (PDA journal, January, 2000)

Practice and Reflection

Practice and repetition of the same teaching activity, and reflecting on that experience, shaped the interns' understanding of what it means to teach. Leading the children in classroom management activities gave the interns opportunities that could be repeated and reflected on. Sally described taking the children to the library as a time for her to consider and reconsider the instructions and expectations she delivered.

> The other day, I walked the fifth graders to music. They are not supposed to talk in the hallways because it's distracting for the other classes. I said something to them on the way down about being quiet. It lasted for about ten seconds and then children were laughing and talking and making noise. I was thinking about that after I dropped them off. When I picked them up, I needed to say something different. This time, I gave them a specific expectation. Being able to practice this really helped me understand what I need to do to help them make a better choice of behavior. (Sally, Interview, September 1999)

Doing an activity before incorporating it into a lesson plan significantly affected the way that Colleen and Kathryn understood learning to teach. Colleen believed that doing a task gave insights into how the children experienced the same task. Before she planned an inquiry-based science lesson focusing on air pressure and a mathematics lesson that stimulated the children's conceptual understanding of numbers, Colleen did the activities herself. From her experience, Colleen generated questions that she thought appropriately probed the children's understanding of the concepts. She also decided which parts of the task she thought best to model for the children and which aspects the children could successfully work out for themselves.

> I twisted the straw into the plastic bag and collected items around me to try to blow them up. I was amazed at how strong air is. I guessed it would lift a book, but was amazed that it could raise a person. Generating questions for the children to think about was so much easier for me.
>
> I did the same with the numbers game. I played this math game many times as I thought about planning the task. I got numbers and arranged them so that they were way too big. I added them up together and thought about how I could have done this differently. I rearranged them again and realized that if I play around with it and look at our numbers and try and figure out which set up is going to give me the closest to one hundred that I can possibly get with these four numbers. I was able to confidently model some of these for the children during the lesson. (Colleen, Interview, December 1999)

In a similar fashion, Caran used mental rehearsal to help her anticipate how to phrase words to enhance the sequence and flow of the lesson's ideas. As she rehearsed, Caran asked herself questions that she thought the children might have. Further, Caran practiced responses that she felt were clearly stated.

> I don't really feel comfortable getting stuck in a lesson. I practice it a couple different ways to say words that describe an idea. When I teach, I obviously haven't memorized what I practiced. At the sticky places, my practice words come back to me. I use those or similar words. I feel more confident teaching having practiced it. (Caran, Interview, October 1999)

Research indicates that preservice teachers relate success in their teaching to feelings of confidence (Applegate, 1986). Ellwin, Graue, and Comfort (1990) and Borko, Lalik, and Tomchin (1987) report that student teachers' perception of unsuccessful lessons are often couched in terms of classroom management difficulties, whereas successful lessons are characterized as unique aspects of planning and instruction. Another viewpoint, offered by Brandt, Hayden, and Brophy (1975), indicates that preservice teachers tend to take credit for students' successes, but not for their failures. A different perspective, suggested by Ames (1975), is that preservice teachers take the blame for failures and attribute success to the students. Initially, the PDS interns framed their successful and unsuccessful lessons in a myriad ways, as reported in the research. However, as the interns' increasing classroom experiences provided them with extended periods of time with the children, they interpreted the success of lessons differently. Rather than defining success in terms of their lesson delivery, they began to equate their successful teaching practices with the children's conceptual understanding of a lesson or topic they had taught. They figured that even though a lesson "appeared to run smoothly, this did not necessarily reflect the children's learning" (Diana, Interview, February, 2000). The interns targeted individual children after the lesson when independent practice was taking place and questioned them, as a means of

informally assessing, the child's understanding. They used this information to decide whether or not the objectives of the lesson had connected with a child's conceptual understanding.

> Children are very good at hiding what they do not really understand. They develop ways for compensating for not understanding. I need to be aware of that. If a lesson appears to run smoothly, then I am even more testing of the children's understanding. (Colleen, Interview, June 2000)

Understanding How Children Think and Learn

Developing collective and individual relationships with children and seeking to understand their thinking were highlighted by the interns to be crucial for the development of their learning about teaching and understanding how to teach.

Knowing Children

Exploring children's thinking was highlighted by the PDS interns as a significant contributor to their efforts to understand how to support children's learning. As they observed and conversed with a child and groups of children, the interns made sense of the children's thinking. "The more I knew about these children and their thinking patterns, the better I could understand how to teach them" (Diana, Interview December 1999). In figuring out ways to trace a child's thinking, the interns recognized the wisdom in Colleen's insight. "If I do not understand how children think, then I might assume that they think like me" (Interview, September 1999).

Existing research reports that preservice teachers often have unrealistic or inappropriate expectations about the students they will teach (Gomez & Comeaux, 1990; Kagan, 1992). This may be a consequence of these students' limited knowledge (Florio-Ruane & Lensmire, 1990). For some student teachers, reentry to school delivers a mild to severe "reality shock" (Gaede, 1978). Novice teachers find that their images of students, teachers, and schools are incongruent with the beliefs and understandings generated by their own schooling experiences. Such discrepancies may rest in the student teacher's commonly held perception that the students they encounter will be like they were as students (Hollingsworth, 1989; Knowles & Holt-Reynolds, 1991). Knowles and Skrobola (1992) reported a general consensus among university supervisors that most preservice teachers who failed their student teacher field experience were unable to determine and respond to their students' needs. The supervisors reported that unsuccessful preservice teachers typically become preoccupied with themselves and their ability to "survive the semester" at the expense of students. This kind of detrimental self-absorption is explained and supported in research linking preservice teacher development with professional role identity (Fuller & Bown, 1975; Kagan, 1992). However, Kathryn believed that being part of a classroom community that fostered positive and caring relationships between teachers and students gave her "power to listen to her children, and insight to question them" (Interview, September 1999).

Especially, the internship year gave the interns opportunities to develop and sustain relationships with a group of children over an extended period of time. Caran appreciated the impact this had on her understanding of how children learn. Additionally, spending an entire school year with the same children presented her with an extended opportunity for reflecting on feedback with respect to her strengths and areas of need as a teacher. Caran elaborated:

> Building relationships with children is very important. I think it's really special to be able to have this prolonged amount of time. I feel like I know my children very well, and they

> know me. I have time to understand what they are thinking and figure ways to help them. If I listen to them, they will give me questions for myself. They will know whether or not I can do this, and so will I. It will be a real test of what sort of teacher I can be. They will remember me, and I'll remember them. (Interview, June 2000)

As she assisted a child with story writing, Colleen recognized the importance of a child's sense of ownership. When he realized that the choice of topics was open, this third grader was ready to practice his writing skills.

> His last story was a page long. The other children wrote much more – some fourteen pages. He wrote a page. Every single word was totally pulled out of him. He didn't like the last story. It was such a painful experience. With this next story, he was thinking about it, and planning for it before we even started. He was excited about writing a story. I know he can write well because he's shown us other stories that he's written in other years. If he doesn't like the topic, he's not going to do it. (Colleen, Interview, December 1999)

Feinman-Nemser and Floden (1986) discuss student-teacher relationships in terms of emerging tension between "themes of authority and friendship" (Knowles, Cole, & Presswood, 1994). This can create confusion in how teachers view their roles and relate to students. This discrepancy is consistently reported in the literature on beginning teacher development (Bullough, 1989; Bullough, Knowles, & Crow, 1991). While she negotiated relationships with fifth graders during the first few weeks of her internship, Sally reflected on how past experiences impacted her thinking.

> Previously, I interacted with children in a more social, and individualized environment, where I knew small groups of students really well in a personal way. We told each other things about our lives (appropriate things), as though they were my little friends. In those relationships, it was an acceptable way to relate. But now that I need to be seen as the classroom teacher, I am feeling as though my personal life needs to stay personal. Toward the end of the week, the students were asking me questions such as, 'Where do I live? Who do I live with? Was my hair ever long? Did I have any pets?' I struggle with how much personal information to give them. And it's not that these are things that I wouldn't want them to know for any reason, I just don't know that if they're appropriate to share in this situation. Going into this internship, one of my biggest classroom concerns was that, based on my past experiences, I would only want to play and be social with the kids, and that I'd have a hard time focusing on the academic material. Now that I sense myself wanting to interact in those ways and tell stories, I don't know if it will make it more confusing for the children for me to keep switching my roles. At the same time, I don't believe that it's the teacher's job to stand up front and wield some authoritative power over the group, like they're far above the students. The thing is, I really do enjoy knowing children personally and having that type of reciprocal relationship with them. I believe, it is one of the most valuable things for me to do. But I don't know how that fits in, or interferes with what I *need* to get done in the classroom. (Sally, Journal entry, September 1999)

As she reflected at the end of the internship, Sally acknowledged that finding something to like about a child who was extremely dislikeable was a challenging aspect of learning to teach.

Getting Inside Children's Heads

As they became comfortable with their classroom surroundings, the interns recognized the significance of watching children. Although they initially experienced some tension between being an active 'teacher' in the classroom and a seemingly passive observer, the interns valued their time spent 'kid-watching.'

> At first, I worried that if I listened and watched a child, my mentor teacher would think I was not being useful. But my mentor teacher wanted me to watch. After a lesson, she and I talked about what I had seen and heard. What did I think the children learned? What did I learn from watching and listening to their ideas? I believe this helped me understand how children think. I always wondered why some children seem to come up with ideas that are totally unrelated to what is being discussed. I learned that often their thinking is connected. If I questioned them, it made more sense about what it was that had triggered their thought. Sometimes it was off at a tangent, but more often than not, it was a different way of doing a problem. I caught myself thinking, 'That's a good idea. I hadn't thought of that before.' Then I'd say, 'Tell more about that idea.' Other children would piggyback off the first child's idea. (Caran, Interview, December 1999)

One-on-one conversations helped them understand how to explore a child's thinking by posing questions. Reflection-in-action during the interview and reflection-on-action (Schon, 1987) after the experience gave the interns insights into how a child understood a particular concept. As she devised activities to help a first grader develop number sense, Kathryn commented,

> As I structure activities that help Tom better understand numbers, I try to think like he does. If I can get inside his head, then it makes my task of teaching him make sense. What can I do that will push his thinking a little further? Then I try it. I watch him ponder it. Maybe everyone else in the whole group knows the way, but I want to know how he figures it out. (Interview, December 1999)

As they began to recognize and value the children's questions and connect these to developmentally appropriate activities, the interns developed lessons that focused on inquiry. Kathryn, Diana, Margaret and Jayne worked as a team to rework an existing school district curriculum unit. As they led their children through inquiry-based science lessons that focused on discovering dinosaurs, Kathryn and Diana described the children as "incredibly motivated."

> The children were reading books on their own. They were going back to the book corner, and researching in their teams. Every morning about 15 children crammed into the book corner, and discussed what they were trying to read. They looked at the pictures and asked, "What is this dinosaur? Look at its teeth. Could this be our mystery dinosaur?" They turned page after page after page, analyzing the different pictures and words. They were working together. They relied on one another. When one child figured out a clue, they ran to the other ones to talk about this discovery that they made. When one of them thought that they actually found the mystery dinosaur, they were squealing with delight. They jumped up and down with excitement. I think the activities guided the children to making the connections and use the knowledge they had to make predictions. For example, we figured out that four of our feet went into our leg length, and seven of our

> feet went into our body length. We then asked, 'How do we think that we can figure out how big our dinosaur is? We do have a footprint of our dinosaur.' It took a while but once a child made the connection that we can figure out how long the dinosaurs legs were because there must be four feet together, they were solving mathematical problems. They were concentrating and thinking about it in so much detail. It was hard for me to believe that first graders were able to do this. It was ratios and multiplication. They did it by asking each other and us questions. Using what they knew and skills they combined as a team, the children worked it out. It was awesome. (Kathryn, Interview, June 2000)

As she posed questions for her inquiry project, Diana explored an aspect of her teaching practice that focused on children's self-esteem. Diana questioned how children think about themselves when they appear to be unmotivated to complete a task, and what aspects of her behavior can she change to help the situation.

> I am always wondering about my own practice when dealing with the children's self esteem and motivation. I wonder if I am doing the right thing. How I can tell? What if I feel confident in my actions and it turns out to be negative? Do children sometimes need to feel badly for their actions, even though it makes me feel badly?
>
> Keaton angers easily. When he is off task and I point out the need to get to work, it is not unusual for him to sigh and appear annoyed (give me a look of disgust, and put his head down on the table). He has told me that I bother him too much. One day during writer's workshop, I told him he needed to get to work. He sighed and put his head down. I went to talk to him about this. During our discussion (which was frustrating for both of us), I realized he didn't have a pencil. I asked him to get one, and come back ready to work. He stormed off and said, "Geez!." This angered me and I called him to stop so I could address this behavior (using an I statement). However, he did not stop. I followed him to the pencils. I made a conscious decision to try to make this a positive situation instead of making things worse. I pointed out that he is a capable student. I've seen him work hard. I asked how he feels when he works hard. I also asked how he wanted to feel at the end of writer's workshop. To both questions, he said that he wanted to feel good. He left feeling good about himself. I also thought he was motivated to work. However, at the end of the session, he had barely begun his work.
>
> Saying "get to work" doesn't work with Keaton. In fact, saying a positive comment about his capabilities before the 'get to work' part isn't enough. In order to get positive results, we have to go through the pep talk, as above, every time we undertake a task. I would like to say that I have time and energy everyday to do this, but I don't always. Do I have to find a way to take the time? But what if it only influences his self-esteem and doesn't motivate him to work? Is there a more effective way for both of us to make better choices? What can I do to change my behavior to help Keaton? (Diana, Journal entry, March 2000)

Diana's efforts to change her classroom behaviour demonstrate a significantly different action than research suggests can be expected from student teachers. Preservice teachers tend to blame classroom management difficulties for students' lack of cooperation (Borko, Lalik, & Tomchin, 1987). Student teachers see themselves as unable to do things differently because they lack expertise in such matters. Diana looked beyond apportioning responsibility to her lack of teaching experience. She adopted a perspective that worked to better her understanding of

children. Further, she tried to make changes in her thinking and doing that were congruent with Keaton's needs.

The evidence offered in this first section of the findings supports the assertion that PDS interns learn about teaching and how to teach by unlocking the knowledge of expert practitioners and tapping the resources offered by mentors through self-reflection, reciprocal observation, questioning and dialogue, analysis, and reflection; through reflecting on their actions and guiding thoughts; and through making sense of the differing ways children think and learn. In this final excerpt, Colleen's thoughts reflect the depth to which novice teachers can realize the significance of understanding children's thinking as they struggle to make sense of learning about teaching and learning how to teach.

> Teaching a class of 26 children is a very different story to teaching 26 children. One of my greatest struggles over the last few months has been trying to work out ways that I could provide for the individual needs of our children. When I had no idea at the beginning of the year how to assess children's understanding, teaching seemed so much easier. I thought I could take a class of children and teach them the same thing in the same given time to the same level of understanding – much like mine. Now that I can look at a child and figure out what his or her needs are, it is so much more complicated. I see what this child needs, but I am only one person. I have to work out ways that I can devise activities to help that child without compromising the progress of the other children in the class. I need to be doing this. And it is much more complicated than teaching a whole group of children. (Colleen, Interview, June 2000)

The second section of the findings captures how PDS interns portrayed a second part of learning to teach: learning to be a teacher. This process focused on the interns' coming to terms with the roles, responsibilities, and rituals of acting and thinking as members of a professional community of practice. As they shaped their teacher identity, the interns explored the functions of a school and the work of teachers. They stepped beyond the classroom door to participate in the complexity of a school organization. Tensions emerged as the interns sought to make sense of their developing knowledge of an educational system. Their experiences throughout the school setting presented many challenging opportunities for the interns to learn to be teachers. As they created space to cope with these tensions, the interns conceptualized the teacher's work as an integral part of a complex system that is comprised of interdependent components within a community of practice. The interns portrayed learning how to be a teacher in the PDS context as a process identified by these themes that emerged:

- shaping a transitory teacher identity;
- negotiating the college student role and PDS intern role in the school-university partnership;
- building teacher relationships;
- establishing community relationships in a school system;
- fostering home and school relationships; and
- exploring ownership of the curriculum.

Table 2
Emergent Themes: Learning about how to be a teacher

Themes	Sub-themes
1. Shaping a transitory teacher identity	• Complexity of teaching • Understanding the role of a teacher • Confidence in self as teacher, colleague, and focus on children • What is curriculum? • Procedural versus conceptual teaching and learning • Risk taking
2. College student and intern roles	
3. Teacher relationships	• Three teachers – three belief systems • Impact of interns on mentor teachers
4. Community partners in a school system	• Multiple teacher roles • Connecting home and school
5. Who owns curriculum?	• Questioning curriculum • Enhancing curriculum

Shaping a Transitory Teacher Identity

Learning to teach involves the continuous process of shaping and reshaping a teacher identity (Bullough & Knowles, 1991; Bullough, Knowles, & Crow, 1991; Feiman-Nemser & Buchmann, 1986). Through an exploratory and emergent process, the PDS interns claimed that their transitory teacher identity was "produced and reproduced" (Fairbanks, Freedman, & Kah, 2000, p. 110) through dialogue, doing, and reflection with the members of the professional development school community. Multiple mentoring experiences offered within the PDS community of practice helped the interns to shape their provisional teacher identities.

The Complexity of Teaching

Preservice preparation programs do little to assist novice teachers in expanding their relatively narrow conceptions of a teacher's work. Coping with the role complexity and the numerous responsibilities associated with the work of a teacher can be a very engulfing experience for preservice teachers. Doyle (1977) and Zeichner (1993) report the need for beginning teachers to learn the ecology of the classroom in order to succeed as teachers. Doyle (1977), in a study of 58 preservice teachers, reported that student teachers described their response to the complexity of the learning environment as being overwhelming. Less successful student teachers attempted to reduce the complexity of the classroom by ignoring it. The more successful student teachers accepted and attempted to develop

strategies to help them adapt to the environmental demands (Doyle).

An emergent theme in the data analysis was the "ordered chaos of the classrooms" (Mark, Interview, September 1999). Each intern expected the classroom "to be busy, but not as complex as it really is" (Colleen, Interview, December 1999). "Even the simplest of tasks, such as taking lunch count, takes an amazing amount of organization" (Kathryn, Interview, September 1999). "I spend an enormous amount of energy in the first 15 minutes of school when the fifth graders first arrive" (Sally, Interview, September 1999). In an interview in December 1999, Diana recognized her growth of knowledge in how she perceived teaching. Prior to the beginning of the PDS experience, Diana thought that she

> knew what to do and could handle it. It would be a lot of fun. Teaching would be a lot of work and challenging. I knew that it would involve preparing the classroom daily. I didn't think those jobs would take too long. In the first few months of the internship, I learned how much time it takes to get the classroom prepared and to design a lesson. I really have to think about the preparation I need to do. It's more than thinking up a couple questions. I have grown in my understanding of classroom organization and setting expectations for children. Classrooms are really busy places. I need to set up the classroom for an activity. I have to figure out where the children are, where I want them to transition to, and the order of the lessons' questions. I have work out what responses I expect, and how I am going to move the children's thinking along. What am I going to do with them afterwards? I am finding out how complex it is. I've grown in my understanding and expectations. (Diana, Interview, December 1999)

As she lived her daily classroom experiences, Diana was "amazed at how much her train of thought was jumbled up during the day" (Interview, December 1999). While she described herself as a linear organizer, Diana recognized that she needed to think differently.

> There are so many things to do. There's a lot going on in my head at one time. Sometimes it is really challenging to completely focus on what the children are doing, and the answer that they're going to give. I'm trying to listen to the answer, thinking why they gave that answer, or what made them think of that answer, seeing what other kids have their hand up and who's not answering, and who's thinking, and who might understand, who might not, and getting the attention of the child who is off-task. And I'm trying to think, what question do I ask next and what are we doing in ten minutes, and what time is it right now. (Interview, December 1999)

Likewise, Caran found the classroom to be "extremely hectic" (Interview, September 1999). While she acknowledged one of her strengths as her being multitasked, Caran was surprised at how much she needed to reshape her "picture of herself as a teacher" (Interview, September 1999).

> It helps me realise those things need to be done all the time and that I needed to be constantly aware of them. I'm good at doing multiple things at the same time, such like working with one child on something more difficult and with another one who just says, how do you spell something, and while this person is writing something, I spell it and go back and then say to another child, 'Put that in the math box.' I like to be aware of things so I don't have children getting frustrated from lack of attention.

Understanding the Role of a Teacher

Negotiating their role as a classroom teacher was an important emergent theme in the interns' process of learning to teach. In this section, I provide evidence to support the claim that understanding the role of the teacher significantly shaped the interns' transitory teacher identity.

In the first few months of the internship, the interns portrayed themselves as observers in the classroom whose major role was that of helping. Mark saw himself as "a utility guy" (Interview, October 1999). Diana adopted "a community member role" (Interview, September, 1999). While she perceived that the children initially saw her as "a reliable source of solutions" (Interview, October, 1999), Kathryn's active role in the ensuing months "elevated her classroom position to teacher in the children's eyes" (Interview, December 1999).

Colleen defined herself as a "facilitator of children's thinking and discussions who entered children's conversations, probed and assessed their thinking, and then left the group to continue working" (Interview, December 1999). Mark made sense of his role as a teacher by seeing himself as ping-pong player. He served the question, and the children responded. He saw himself as a teacher who

> kept the children's attention, so that they listened to me. I'm an adult and children like to listen to me. I think that they do. I have some amount of authority over them. In that way, I'm a teacher. During moments in math class or when students are coming up and asking questions, and getting feedback and discussion, that's when I feel like a teacher. When I'm generating questions and children are coming up with insights, then I feel like the teacher I want to be. (Interview, October 1999)

A turning point for Caran was her realization that knowing all the answers did not determine whether or not she was a teacher in the room. Rather, it was an indication of the respect the students gave her, as she commented:

> As a teacher, the students often look to me to have all the answers. I am well aware that I don't. There have been many times this year when I have had to tell the students, "I don't know." Often, this is a discomforting feeling, especially because teachers often feel our job *is* to 'know.' However, I was pleased to see that last Monday, when I was not sure of the answers, I was much more relaxed about it than I have been in the past. I didn't get the nervous feeling of failure or uncertainty that I have had before. My focus was on trying to figure out the answer, instead of worrying that the students would lose their respect for me. I asked Mrs. Whead for assistance, but she also was not sure. I suggested to the students that we try to find out. (Caran, Journal entry, December 1999)

As she reflected back on the year of internship, Diana realized that her role as the teacher was defined by the relationships she established.

> Being the teacher I thought I wanted to be required me to redefine myself, to think about my beliefs about children, and what it means to be a learner and a teacher. In the end, I was the one who decided I was a teacher, not the children, or my mentor teacher. I gave myself permission to be a teacher when I figured out who I felt comfortable with. It took me a whole year to work that out. I know it will change again as I enter my first year of certified teaching. Knowing that I will change is a comforting thought. This means that I have given myself encouragement to be a better teacher. (Diana, Interview, June 2000)

Confidence in Self as Teacher, Colleague, and Focus on Children

The research describes preservice teachers experiencing bouts of low self-confidence or even fluctuations in mood (Goldhammer, 1969). Novice teachers anticipate failure or feel as though they are failing in their teaching efforts despite initially high expectations. Knowles and Skrobola (1992) report that student teachers who anticipate failing have more difficulty noticing their accomplishments. Student teachers who are feeling tired, facing crises in the classroom, or being anxious are less likely to notice the motivational needs of students (Knowles & Skrobola, 1992). Additionally, student teachers typically witness a growing confidence in their perceived abilities to teach as they become less concerned about themselves and more aware of the complex influence of the classroom (Pigge & Marso, 1989). As they begin to make sense of their experiences, conceptual changes are likely to occur, particularly views of themselves as teachers and their notions of curriculum and instruction (Shapiro, 1991). Moreover, there is typically an ebb and flow to those perceptions (McIntyre, 1983).

As they entered the PDS context, the interns felt confident about the image of the teachers each thought they were and would continue to be. However, after the first few weeks of classroom experience, Diana expressed her "nervousness as she reopened [her] concept of what a teacher is" (Diana, Interview, September 1999). As she "searched for an understanding of what the multiple roles of a teacher are" (Interview, September 1999), she concentrated on her confidence.

> I think that having confidence as a teacher is the most important thing. Knowing that no matter what I'm faced with, I can handle it. I believe in myself. That will get me through anything down the road. (Interview, September 1999)

Likewise, Mark, Sally, and Caran indicated fluctuating feelings of confidence. They concluded that their confidence was not related to their daily teaching performance. Rather, it was embedded in images of the teachers they believed they were and the relationships they had established in their classroom communities. Kathryn expressed similar sentiments:

> I knew that I could not perform for a whole year, and pretend that I was confident. I had to let it out. After the first few weeks, I was not feeling very confident at all. There was so much to think about and do. Once I realized that it is okay to feel like this and that I will have ups and downs for my entire teaching career, I felt different. I could learn to be a teacher without feeling guilty because I wasn't confident all the time. That's okay. Others around me helped me to feel confident about myself as a teacher and not judge my performance as a teacher. I see that as being very important. When a lesson was lousy, I didn't blame myself, or my performance. I thought about why I did things a certain way, and how I would do them differently without feeling as though I am a 'bad' teacher. I listened to the feedback from my mentor teacher, PDA, and children. I could do this without feeling as though my teaching was being judged as good or bad. When I recognized that everyone wanted me to be the teacher I wanted to be, I stopped focusing on my performance and looked at the impact of my teaching on the children's learning. Then I felt comfortable with the emotional ride. (Kathryn, Interview, April 2000)

What Is Curriculum?

The complexity and breadth of this elementary school curriculum challenged the PDS interns as they shaped their teacher identity. Research reports that anticipation of teaching a particular subject matter may cause high levels of anxiety for elementary preservice teachers (Westerback, 1982). Further,

insecurities about subject matter knowledge (and its translation into pedgagogical subject matter knowledge) are likely to result in compensatory approaches to teaching, such as over-reliance on textbooks and on memories of their own schooling (Feiman-Nemser & Buchmann, 1983, 1987). Preservice teachers like this are likely to lack confidence in their own teaching (Borko, 1989).

The interns' initial response to the curriculum focused on the lack of time. As she compared her previous classroom experiences of curriculum scheduling with the current expectations, Sally was amazed at the lack of instructional time. She remarked how the inflexible scheduling constrained the development of her teaching practice:

> After scheduling specials, lunch, the computer laboratory, silent reading and DPA, we have time for math every day. But we need to have science, social studies, and language arts. There's like no time to do it. We end up doing 20-minute chunks of activities.
>
> The way I think about it is that it should be blocks of integrated subject matter. We did this at the charter school. When we watched a video on the wetlands, we set aside a three-hour chunk of project time in the morning for our science unit. We talked about wetlands all day and the students completed projects. But this curriculum in the public school requires us to have different strings of things going on. We have to fit them all into our district approved schedule. (Sally Interview, September, 1999)

As they assumed more teaching responsibilities, Kathryn and Diana found ways to manage the seemingly inflexible curriculum. They nurtured their beliefs about the importance of deepening children's understanding of content rather than "trying to cram it all in" (Kathryn, Interview, April 2000). As they co-planned an introductory activity for the American Album unit, these interns included their children's previous learning about various U.S. cities to assess what they already knew about the places they would 'visit.' Importantly, Kathryn and Diana used their growing understanding of technology to create experiences for the children that simultaneously fostered these interns' understanding of their teacher identity. Despite the challenges they faced when using technology in their classrooms, Kathryn and Diana said that they

> persevered until the two of us felt comfortable with it. There will always be a new problem when a teacher uses an overhead projector, the Internet and a scanner. We figured it out together. Our mentors and the children learned from us as we used the technology. Next year, I want to use technology in my room. This year was a great time to figure out how it could work. (Kathryn, Interview, June 2000)

Locating reliable resources and relearning the content were time consuming but essential for each intern to effectively plan and teach a lesson. Each intern identified content areas in which their knowledge was less than adequate to teach a series of lessons. Sally designated science, plate tectonics, and earthquakes; Colleen, mathematical concepts related to teaching time and fractions; Mark, long division; Kathryn and Diana, inquiry-based science lessons focusing on light and sound, and Caran, using mathematical manipulatives to teach place value. After relearning the content, the interns negotiated the breadth of the curriculum units. This required them, with their mentors' input, to select various ideas from the unit and weave the content into a series of lesson that met the objectives and standards, and fit with the interns' reshaped thinking about how to teach curriculum. Interns spent time reading material (other than for methods classes) to understand the content from their children's perspectives and to find different ideas for integrating the content into connected lessons in the school district units.

Procedural Versus Conceptual Learning and Teaching

As they negotiated their teacher identities, the interns were challenged by two aspects of procedural and conceptual learning and teaching. First, they had to figure out what it meant for them and their students to learn procedurally and conceptually. Second, negotiating how and when to teach concepts procedurally and conceptually raised issues that stretched the interns' thinking along lines that Colleen posed.

> I want to teach children to understand a concept conceptually. That is how I feel most comfortable. But when do I stop teaching a concept conceptually and do it procedurally knowing that we have a curriculum that demands I move on? (Interview, June 2000).

As a result of experiences in the math methods classes, Caran questioned the way she had learned math herself and realized that there were large gaps in her own understanding of mathematical concepts. As she found ways to teach mathematics ideas conceptually to her fourth graders, Caran's mentor teacher "gave [her] the space to try this" (Caran, Interview, December 1999). In the following excerpt Caran details how she made sense of conceptual learning in order to develop teaching strategies that supported the children's conceptual math knowledge. In doing so, she reflected on how she devised activities to foster such learning and assessed the children's understanding. First, Caran described her initial thinking and teaching:

> In the beginning I was working with the fourth graders. Mrs. Whead would tell me what pages to teach, and what homework to give. I remember that the rounding lesson in particular was so frustrating. I would think, 'Ahhh, how can you not know how to round? Everybody knows.' I knew they didn't, but it was so hard to explain. I fumbled around and said, 'Look at the number. See if it's bigger than five. Look at the number behind the number you're trying to round. If you see it's bigger than five, change the number.' I wasn't explaining what it meant at all. I was saying, 'Do the algorithm. Do the procedure.' The children were so confused. They didn't even really understand what a 'ones' place was, and what a 'tens' place was. So when the book said round to the hundreds place, the children would say, "I don't remember if that's the third, or the second number." (Caran, Interview, December 1999)

After reflecting on this lesson with her mentor teacher, thinking about her experiences in the math methods course, and observing first graders, Caran decided to ask her fourth graders, 'How did you get that?'

> I found they said different ideas. We were adding and regrouping with blocks. One of the students described getting an answer in a different way. I was very surprised. I would not have thought of doing it that way. So, I asked the other children. Many had done it different ways. They were excited to share how they did it differently. Even if they didn't get the same answer, they shared. Before this, when one child gave the right answer, that was the end of the discussion. By the end of the next three lessons we had 'discovered' all the strategies they needed to complete the independent practices. I devised activities that we could practice the strategies. Also, in my head, I was figuring out how much each child understood. I asked questions to those who seemed to be in need of further help to figure out what they were thinking. (Caran, Interview, December 1999).

Risk Taking

"to go beyond what I needed to do, and take the risk to do it"
(Kathryn, Interview, June 2000)

As they assumed more and more teaching responsibilities, the interns were inspired to extend the boundaries of their thinking and doing. Actively undertaking risks in their teaching practice pushed the interns to challenge their thinking about "the way lessons were always done" (Kathryn, Interview, March, 2000).

Colleen was disappointed by her attitude toward scientific inquiry. While feeling constrained by the practical idea of doing inquiry in her classroom, Colleen was also haunted by her questioning: "How do I give up control and put it in the hands of eight-year-olds? How can I ensure that the students will ask the 'right' questions? How can I ensure that we will be addressing standards when we inquire into student questions?" (Journal entry, December 1999). After sharing her idea with her mentor teacher, Colleen invited the science methods course instructor to co-teach a science lesson with her. Colleen and Karen knew the risk involved in asking "an expert to look at how we teach science" (Colleen, Interview December 1999). In the following excerpt, Colleen shares how she reconsidered her stance towards inquiry:

> I invited Christa into our classroom to co-teach an air and aviation lesson in an inquiry-based method. I wanted to see inquiry play out in a real classroom before I made up my mind about it.
>
> Christa and I planned a lesson in which the students would be actively engaged and asking questions. They would be developing an understanding that air takes up space and moving air can do work. The students would test to see if they could lift things, like a person, heavy books, and so forth to see just how strong air really is. It was incredible to see the excitement and enthusiasm in the students. They were so involved and intrigued that it was really hard to stop the science lesson in the end. The activities planned really developed a strong understanding of the ideas we wanted the children to take away from it. In addition to making conclusions, the children offered evidence to support their claims.
>
> When one of the students offered the conclusion "air takes up space," he defended his claim by relating it to an experiment he had seen on TV: submerge a cup, with a napkin in it, upside-down in water, and the napkin will remain dry. This is inquiry to me. He was able to link what he learned on that day to something he had seen before.
>
> I have learned that inquiry is realistic in the classroom. Inquiry doesn't mean that you as a teacher must give up all control in the classroom. It is necessary for the teacher to realize his or her comfort level in the classroom. I see guided inquiry as a very realistic and beneficial method for teaching. The students learn through active involvement and enthusiasm for the content. (Journal entry, December 1999)

Kathryn acknowledged the instrumental role her mentor teacher played in encouraging her to take risks. Diana and Kathryn structured a culminating activity for the social science unit, Prehistoric Life, that involved first graders in designing a slide show and making presentations to parents. According to Kathryn,

> Jayne pushed me to do things that like I'm sure I wouldn't have done. She supported and

> talked me through times when it was hard to think beyond the lessons outlined in the unit. Our brainstorming [Jayne, Kathryn, Margaret, and Diana] pushed Diana and I further than what we thought we could go on our own. I am a better teacher of children. (Kathryn, Interview, June 2000)

College Student and Intern Roles

Making sense of their roles as a college student and as a PDS intern was an on-going challenge for the interns. In some sense, the interns had the worst of both their college and teaching lives during the internship year. They "gave up a college student's life, yet did not get a teacher's pay" (Nolan, 2000). When she realized that learning to be a teacher involved more than spending time in a classroom with children, Diana expressed feelings of being "overwhelmed," adding,

> I think that being a teacher is a totally new lifestyle than I've ever been used to, or thought it was all about. That's interesting to me because both my parents are teachers. I didn't realize how much time they spent outside the classroom still being a teacher. It's tough to get used to. (Interview, October 1999)

As she discerned ways to find a balance between being Caran, the teacher, and Caran, the person, she felt as though she had "two personalities" (Interview, December 1999):

> During the week, I work with children and other teachers, and on the weekend I'm a student. On the weekend, I call up on my friends. I don't really talk to them during the week. During the week, I talk to children, other interns, teachers, administrators, and parents. I go to dinner with the teachers and I hang out with the interns and talk to them on the phone. But on the weekend, I do things with my friends and see them and talk to them on the phone. I see my family. Finding a balance so that being a teacher doesn't consume me is not easy. (Caran, Interview, December 1999)

Mark was struck by the organizational demands that being a teacher imposed on his professional life. Unlike some of the other interns, Mark felt comfortable with many activities going on simultaneously. He liked to think in divergent ways, and in particular enjoyed learning about teaching. Mark found it challenging to adhere to a schedule that involved setting priorities. Negotiating time to complete the required methods course activities and to carry out his classroom responsibilities generated conversations between Mark, his PDA, methods course instructors, and mentor teacher(s).

> There are so many things I want to do that focusing on one in particular is difficult. I would like to give the children opportunities to experience alternative music for example, but taking the time to do this means that something else has to go. I find it hard to know exactly what it is that my mentor teacher and social studies methods course instructor want me to do. I thought I had it sorted out in my mind, but obviously I didn't. I need to focus on that particular task and get it done. (Mark, Interview, December 1999)

Embedded in the experience of learning to teach in the PDS program is the tension that contextual learning and teaching generated when two cultures, a school and a university, superimposed their curricula on the interns. They struggled to negotiate the concurrent demands of these two organizations. While the objectives of the methods course focused on helping the interns to develop methods to teach

elementary children mathematical concepts, the interns struggled with the 'dailiness' of teaching a particular group of children as well. Initially, it was very hard to think of themselves as learning to be an elementary teacher, rather than, for example, becoming a third grade teacher. However, as their school experiences increased, the interns looked beyond their own classroom door. During an interview later in the internship, Colleen again reflected on her experience of learning to be a teacher:

> Over the last week, I've spent time substituting in primary classrooms. Now, I can see the value of challenging my conceptual understanding of teaching math. I am a teacher of children, not content. I can help children understand how to think differently about an idea. So it doesn't matter if I teach third graders decimals or first graders number sense, it is the pattern of being a teacher that makes sense to me now. At the beginning of the year, I only thought about teaching content to my children in my classroom. I can see how that narrowed the way I thought about myself as a teacher. I also realised that even though children will spend a year in my classroom, they go on to be children in another teacher's classroom. I am responsible for helping them to learn to think mathematically, not only to think about telling the time. (Interview, June 2000)

Teacher Relationships

Three Teachers – Three Belief Systems

Although situated within the context of the classroom, negotiating the belief systems of three teachers impacted the ways the interns understood how teachers build relationships with their colleagues and other professionals in the school. As she inquired into her philosophy and teaching practice related to classroom meetings, Colleen sought ways to present her ideas professionally. Although she recognized herself as a teacher, Colleen honoured her mentor teacher's ultimate authority in the classroom. While she also respected her mentor teacher's beliefs, Colleen used the opportunity to do an inquiry project as a process to create spaces in which to challenge her own teacher thinking. Colleen realized that emerging as a teacher involved understanding other teachers' perspectives. Colleen conversed at length with her PDA, James, who presented another perspective for her, in her words, to "adjust the lenses through which I examine my philosophy and my practice" (Colleen, Interview, February 2000).

Similarly, Diana acknowledged how the different beliefs that teachers hold impacts the way novice teachers learn to be a teacher in a community of practice. Becoming aware of how territorial and protective of children teachers can unconsciously become, and finding ways to effectively communicate feelings of frustration are especially important in a school system whose functioning is dependent on human interaction. Diana reflected on this accordingly,

> I handled a discipline situation with two boys who were chasing in the room. I am actually proud that I was able to handle the situation with such ease. I sat the boys down and discussed what happened, why it was a poor choice, what they could do the next time they faced the same situation. We covered all the bases. When Margaret came into the room, she found me sitting on the carpet talking with the boys. She took over the situation. I was a little upset that she did this because it made me feel like what I did wasn't good enough. I found the courage to talk with her about it. Margaret felt badly for not being there to handle the situation. If I had been uncomfortable, I would have waited for her to come back to talk with the boys about it. I used the techniques she modeled in other situations to handle this situation. Sometimes, as a beginning teacher, it is difficult to

> communicate what I am becoming comfortable with handling, and where I need work. This way my mentor teacher, and any other teachers I work with in the future, knows where I can be left to explore, and where I need more guidance. (Diana, Journal entry, September 1999)

Impact of Interns on Mentor Teachers

An important aspect of their learning to be a teacher focused on the interns recognizing the contributions they were making to the development of other members of the PDS community. In this way, these novice teachers realised the expertise they have to share with other more experienced teachers. Further, as newcomers to a community of practice, the interns figured out appropriate ways to do this that fostered collegial relationships between themselves and the expert practitioners. Diana, Kathryn, and Caran reflected on how their technology skills contributed to their mentor teachers' growth in understanding how to effectively use computers to facilitate their teaching and support children's learning. Diana used report writing to illustrate an opportunity for an intern to help build a mentor teacher's technology skills:

> When it comes to technology, Margaret trusted me. I'm so proud of her because she's really growing this year. Between doing the report cards on the computers and learning to manipulate her programs, she had learned a lot. As we were doing her report cards on Thursday afternoon, she asked me about using the commands on the keyboard. That's a skill that I've acquired this year. I showed her. From the dinosaur slide show presentation, Margaret has really learned a lot about the use of technology in the classroom. (Diana, Interview, June 2000)

Caran led the construction of a classroom website as a way for her mentor teacher to understand how technology can be integrated into instructional practices:

> We used the website to post the children's ideas and work. I helped the children learned the skills they needed to do their web pages and Mrs. Whead learned alongside them. Email was very effective in our social studies unit for communicating with Japanese e-pals. My mentor teacher had not used any technology in this way before this year. (Interview, June 2000).

Colleen noted the way she helped Karen question how she taught science:

> Karen is trying things in different ways. Originally, she was very set in her ways of teaching science. But now, it seems she is seeing how inquiry can be used in the classroom. For example, I did the co-lesson with Carla [science methods instructor]. Karen was not sure how the lesson would go, but afterwards she was really pleased. She wanted a copy of the lesson plan. While we were doing the air pressure inquiry lesson, one of the students raised his hand and said we needed to do a KWL chart. So we wrote what we think we know, and what questions we have. As we did the lesson, we wrote what we learned about air. Finally, we added evidence. It became a KWLE chart. While we're doing that, one of the children said, 'Air takes up space.' Carla asked for evidence about that. Another student explained an experiment that shows this. A cup is tipped upside down and submerged in the water with a paper towel in it. When the cup is removed, the paper towel is as dry as there is air in it. Using the children's ideas is very

> important to me. The very next day, Karen did the experiment. She did Timmy's experiment. It only took five minutes. The children talked about what they saw and thought. (Interview, October 1999)

Community Partners in a School System

Multiple Teacher Roles

As they made sense of what it means to be a teacher, the interns attended to understanding the structure of the school system as a community. In doing so they undertook multiple roles in order to build community relationships with children.

Diana and Kathryn coached volleyball after school on Monday afternoons. While they were primary interns based in first grade rooms, coaching volleyball gave them an opportunity to interact with a different group of upper grade elementary children. Kathryn and Diana realized the support this experience offered as a means of building relationships with other children in the school community.

> For the intramural season, Kathryn and I coached fourth and fifth grade volleyball. From the very first day, we stressed the importance of community and good sportsmanship. When we went to the tournament, the players were supporting each other. It was encouraging to see that. During the day of finals two of our teams ended up playing each other. The team that lost was out of the tournament. My team lost. The players had created a cheer that day for Radio Park, and one of the lines was 'We've got the spirit.' The winning team starts saying the cheer about Radio Park and instead of saying, 'we've got the spirit', they were saying to my team, 'you've got the spirit.' It was overwhelming to see how that sense of community carried the whole way through. It didn't matter who won, who lost. It didn't matter what kind of skills of volleyball you had. They had community, and they were all winners because of it. What is really powerful to me is taking that belief and practice and putting it into my classroom. (Diana, Interview, June 2000)

Learning appropriate ways to advocate for a child defined the teacher whom Colleen aspired to be.

> Advocating for a child is of utmost importance about being a teacher. It's important to speak up and to really stand firm for what I believe. This year, I have participated in some very professional and passionate discussions with our Title I teacher because she wants to exit two of our Title I children. Legally, she has to if they score high enough on their reading assessment. But as classroom teachers, Karen and I know the support those children need in order to read at a fourth grade level. They need one-on-one guidance to learn the strategies.
>
> Another example that I experienced this year was understanding how the Instructional Support Team meetings help a child be more successful in school. We've had a child who had a hard time paying attention. We met with his parents, came up with a strategy, tried that, and assessed the impact. I participated in this process for other children as well. (Colleen, Interview, June 2000)

Connecting Home and School

Understanding how teachers build relationships with parents significantly shaped the interns understanding of what it means to be a teacher. Each intern participated in three-way, student-led

conferences. These experiences helped interns to understand the instrumental roles that parents play in the learning process for their child and teacher. For instance, Caran portrayed parents as

> sets of ears and eyes. They give insightful information about what actually happens at school. Some children give their parents a very different take on something that happens at school. If I know this, then it helps me to understand how to help a child be more successful at school. Listening to a child share his goals with his parents during the conferences was very enlightening. I learned much about a child from observing his parents and listening to them talk. I also think the parents learned about me. (Interview, June 2000)

Who Owns Curriculum?

Questioning Curriculum

The interns realised the significance of trying to understand how decisions concerning instructional practice and curriculum are made in the complicated context of a school system. Caran sought to understand the role of school administrators in the selection and approval of children's reading material. As she noted,

> Recently, I heard that one of the fifth grade teachers in my school was reading a book from the Harry Potter series to her students and was told that she had to stop by our principal. I was interested in the situation because I had been talking with my mentor teacher about the possibility of using the book as a read-aloud later in the year. I investigated the situation further and found out that the principal had been concerned about the use of the book in classrooms (especially in our school) because of the issues of "magic" and "evil" that are in the book. There are growing numbers of parents (usually those parents who have more conservative views) who have significant qualms with these subjects and strongly prefer that they are not addressed in school. I was disappointed when I learned of this, because I had been looking forward to sharing these books with my students, especially those who have had trouble finding books that appeal to them for silent reading. As an alternative plan, I considered buying the paperback version of the book and putting it in our classroom library for the students to read. Therefore it would still be a "student choice" and not a book we were "forcing" the students to listen to. In speaking with the principal about this, I was told a memo had been sent to the principals in the school district saying that Harry Potter books should not be used in the classrooms.
>
> I respect the decision made by the administrators. However, it still frustrates me that issues like this arise so frequently. There are so many books, activities, and celebrations that used to be such a joy for the students and the teachers and that now have had to be taken out of the schools. Although I know each step is done with good intentions, I worry about what will be lost next. (Caran, Journal entry, October 1999)

Enhancing Curriculum

As they sifted through their children's needs and interests, the interns questioned the content of the curriculum units. This excerpt illustrates how interns determined ways to collaboratively enhance a standard curriculum to meet their needs as beginning teachers and support children's learning. As they offered their students opportunities to "feel like an impressionist painter," (Colleen, Interview, June 2000), Mark, Caran, and Colleen worked with their mentor teachers' ideas. As Colleen recounted,

> One struggle this year is that making space for my individuality as a teacher. This curriculum unit doesn't allow for much mobility. Since the teachers at this school created the addendum, they feel very strongly towards that approach being the best for teaching this unit. Caran and I believe it is missing diversity issues. The students only study one female artist, and artists that are white European and male. My mentor told me I could do it differently, but I was not convinced she meant it. Regardless, we made some changes. For example, as we talked about impressionist artists, we learned that they painted outside, whether it was snowing, raining, or hailing. As they painted and drew outside in nature, these artists looked very intensely at the different parts of nature. They portrayed nature with bright, vivid colors. I planned to take the children outside with paper in order to experience drawing their surroundings. The children were expected to concentrate on the details and to use the colors that they observed. I explained the plan to Karen that morning. Although she suggested she had another idea, I was determined to try it this way.
>
> Since the children were a little spread out, I circulated and commented on their work. There were periods of silence as they focused on the object of their drawing. The children shared their drawings when we returned inside. As they described their feelings about being in the outdoors to draw, the children relived what I believe the impressionist artists were trying to convey in their work. Providing children with authentic experiences that challenge their thinking and doing is what the curriculum should be. (Colleen, Interview, June 2000)

Learning about teaching and how to teach, and learning to be a teacher meant following a double helix pathway for the interns. One path led each intern to unique understandings about what it means to teach and to support children's learning in the classroom. Along the other path, the interns were offered opportunities to make individual choices and commitments that guided them beyond the classroom door, to participate in the complexity of a school organization. When they embraced these opportunities, the interns realised the significance of negotiating the tensions that arose from their exploration of a dynamic educational system. As they reshaped their transitory teacher identities, the interns sought to understand the choices that children make, and the ways that children learn procedurally and conceptually.

Traditionally, a field-based student teacher practicum immerses a student teacher in one, possibly two, classroom teaching experience(s). Such programs typically do little to expand the relatively narrow conceptions of teachers' work that student preservice teachers hold upon entering an undergraduate formal teacher preparation program (Knowles, Cole, & Presswood, 1994). Placing preservice teachers in individual classrooms, and keeping their attention focused almost exclusively on the more technical aspects of teaching within that classroom, reinforces their conceptions of a teacher's job. Bullough, Knowles, and Crow (1991) report that this fosters the perpetuation of norms of isolation and contributes to the reality shock often experienced by beginning teachers. As they explored the parameters of a teacher's work outside the classroom, the PDS interns stimulated and negotiated emerging tensions. These novice teachers were encouraged to canvass the roles, responsibilities, and rituals of teachers within a school organization. Consequently, through the interns' probing, questions surfaced that required them to reflect on how the experience of learning to teach in a school-university partnership program facilitated their understanding of the ways schools work. For example, Diana said,

> I know I can ask questions during a job interview that will help me understand how a school and a school district operate. My PDS experiences showed me what it is to be a teacher who is committed to all children, not only the ones in her classroom on a daily basis. Our conversations and questions to my principal, curriculum coordinators, reading specialists, and, even the superintendent, helped me to see that I am part of a team. If I view myself as a team member, I can do a lot more for children. If I see myself as a lone teacher in a classroom only, I cannot be a teacher for all children. I am only a teacher of Room 15 children. Does this make sense? (Interview, June 2000)

As they built relationships with professionals in the school and university organizations, the interns learned how to solve their dilemmas in ways that supported their children's learning. The interns created spaces to investigate the school district's educational philosophy, the local, state, and national standards, and curriculum issues.

> Raising questions about the school district curriculum was hard. I knew that the team I worked with had developed most of the unit. I wanted to present my ideas in a professional way. I tried to explain my understanding at a team planning meeting with the curriculum coordinator. At first, I do not think she understood what I was suggesting. As I explained my idea further, she realized that I was not being critical of the unit, rather making some suggestions for the language/arts unit. My mentor teacher allowed me to try some of my activities. (Caran, Interview, June 2000)

The concluding section draws assertions and offers research suggestions for exploring further aspects of learning to teach in the context of a PDS model of preservice teacher preparation.

Assertions

Assertion 1: Learning about teaching, how to teach, and how to be a teacher is a complex and individualized process that can be overwhelming at times.

At the end of the PDS experience, the interns were beginning teachers who had individually shaped their different understandings of learning to teach. Rather than a one-shoe-fits-all approach, the emerging practices that the interns learned, as presented in this study, support an individually-tailored and flexible process for learning to teach.

In her letter to future interns, Caran offered some suggestions that focused on the individual nature of the PDS experience.

> Once you start teaching a little, and getting more involved in your class, don't compare what you are doing with the other interns. By all means talk to the other interns - they are your support! But don't get worried if another intern is teaching more, or has a different role than you. You and your mentor should set the pace for you in your classroom. (June 2000)

Caran believed that "this gave me permission to grow in ways that fit with who I wanted to be in the classroom. I felt comfortable with trying different teaching practices, even if they were different to my mentor's or other interns" (Interview, June 2000).

The interns perceived the experiences in the year-long internship as a supported start in a career of learning and teaching, rather than as a capstone to their educational coursework in the teacher preparation program. As she reflected on her internship year, Diana acknowledged the decisions she will need to make:

> As I enter my first year of certified teaching, choices will be presented. I will be making decisions based on what I have learned and figured out this past year. I consider the internship year as the first year of my teaching career. I feel comfortable and confident with the teacher I currently am. This teacher is a product of a year-long process that many people invested time and wisdom in. I decided how and when the time was right for me to try new challenges. The other interns did not follow the same paths as me. I realized in the very beginning I could make choices that worked for me. I developed relationships that supported me to do this. I learned that making choices, good or bad, takes courage. Doing things differently from others around me is challenging. But, I've got to be me. I learned from the not-so-good choices. I will continue to learn from these. As I move to another school district, I will find another community to help me. (Interview, June 2000)

While they recognized the benefits of the individual nature of the internship experience, the PDS interns on many occasions described the feelings of being overwhelmed. As they developed a deeper understanding of their teaching practices, negotiated the complex nature of learning to teach, and struggled to support children's learning, the PDS interns identified emotionally draining aspects of the experience. Specifically, satisfying workload demands from the methods course work, maintaining working relationship with colleagues and children and building new relationships with other members of the PDS community, negotiating the tensions that emerged as they tried to maintain a balance in their personal and professional lives, and coping with physical tiredness were sources of stress. The PDS interns used their professional and personal support network "to get through these emotional times" (Kathryn, Interview, June 2000). Conversations with her mentor teacher and PDA helped Colleen recognize that her desire to be more active in the classroom during the early part of the internship could have a detrimental impact on her making sense of learning and teaching.

> I know I place a lot of demands on myself. I want to assume responsibilities in the classroom, but I have to realize that I have obligations to get my coursework done. My PDA has suggested that I share my assignments with her so she understands what has to be done and what is coming next. My mentor has a copy of the course syllabi, but it is my responsibility to remind her. I will be very glad when the coursework is finished at the end of January. Then I can concentrate on planning and teaching, and not have to worry about going to class after school. It is not the coursework that makes me feel stressed, but rather knowing that there is so much more I could be doing in the classroom and at school if I didn't have to divide my time between coursework and schoolwork. I have to figure ways to keep these connected. My mentor teacher and I are working on this. I am being given time to observe and reflect about what teaching is all about. If I take this time, then I will better understand what teaching is all about. I know that it is a very involved process and I need space to think this through. There is so much to teaching. (Interview, December, 1999).

A final quote reflects the degree of comfort that the PDS interns shared with respect to the

complex nature of teaching.

> Anything worth doing has its challenges. If teaching is so simple that we can learn it all in one year, then we would not have some of the dilemmas we face in learning to teach. If all children were so straight forward that designing one task worked for all, then it wouldn't take long to prepare and adapt lessons. Being complicated does not mean it has to be overwhelming. It does not mean fighting to keep my head above water alone. It means figuring ways and finding people who can offer professional and personal support. It means being comfortable with who I am as a teacher, but continuing to question the beliefs and practices of that teacher. (Caran, Interview, June 2000).

<u>Assertion 2:</u> A cycle of observing-teaching-reobserving-reteaching facilitates preservice teachers' understanding of the principles of teaching and learning, and structures opportunities for interns to help their mentor teacher learn how to improve their mentoring skills.

Within the synergistic dimensions of the dyad team, a mentor teacher and an intern continually seek to develop and refine a workable process that models for the novice teacher effective principles of teaching. The mentor teacher strives to demonstrate and explicitly analyze aspects of his or her teaching practice in multiple ways that are developmentally appropriate and facilitate the intern's understanding of learning about teaching, how to teach, and how to be a teacher. In undertaking these challenges, the PDS interns found that the following spiraling cycle greatly assisted them in accessing their mentor teacher's tacit knowledge:

- ✓ Focused observation of mentor teacher instructing either a small group of children (3 – 4) or a class for whole-group instruction
- ✓ Intern and mentor teacher exchange roles. The intern plans a lesson, receives feedback from both the mentor teacher [and the PDA], re-plans and then teaches the lesson [A pre-conference with the PDA, and the mentor teacher when workable pending class schedule]
- ✓ Intern teaches the lesson
- ✓ Intern shares ideas with mentor teacher [and PDA] in a post conference who contribute to the conversation by posing questions to the intern and encouraging the intern to ask questions
- ✓ Intern reflects in writing on the lesson; makes adjustments, suggest changes
- ✓ Mentor teacher and intern again exchange roles and intern observes the lesson
- ✓ Intern co-reflects with mentor teacher [and PDA]
- ✓ Intern plans and teaches next lesson

This cycle provides the mentor teacher a space to signal student teachers to interpret signs of student understanding or perplexity, and talk aloud about making decisions in their pre-lesson planning and in-action lesson changes. Further, mentor teachers can demonstrate how to extend the thinking of elementary students during the lesson enactment, and probe the interns to ask questions about teacher choices, insights, and inklings. Interns have opportunities to rethink and replan specific aspects of their teaching that they considered to be workable on paper but ineffective in practice. Diana described an experience in teaching and reteaching a science lesson.

> I observed Margaret teach a lesson. I thought I had a good understanding of what I needed to do. I planned a lesson for her to observe. I had spent about two hours devising every step of the

> lesson plan, walking through it, and giving enough time for each part of the lesson. As I taught this lesson and discussed it with Margaret afterwards, I realized that the image of the lesson in my head needed significant changes. The second time I adopted a very different perspective. I realized what it was like to have to think and act at the same time, and decision-make within split seconds during the lesson. I observed Margaret teach another lesson. We talked about this during the lesson itself and afterwards. Margaret is very helpful in talking aloud about what she is thinking during the lesson itself. She will often ask me a question about the next step in the lesson in the middle of the lesson with the children listening. This helps them and me. My written second lesson plan looked very different to the first, and it played out very differently. I had experienced a different way of thinking about being the teacher and pulling the lesson together. (Interview, December, 1999)

As she demonstrates a teaching lesson, and observes and co-reflects on the delivery of her intern's lesson, a mentor teacher models ways of thinking about teaching and learning. Through this process, a mentor teacher helps an intern develop "strategic knowledge" (Shulman, 1987), which is knowledge that comes into play as the teacher seeks to manage the exchange of ideas in the context of coordinating social interactions (Heaton & Lampert, 1993). Experienced teachers hold flexible knowledge, not in a rigid or scripted form, but rather in a web of connected ideas that can be selected and implemented as determined by the nature of the social interaction with a child or group of children (Feinman-Nemser & Remillard, 1996). Assisting preservice teachers to reshape their linear thinking into a contextualized and coordinated pool of knowledge from which novice teachers can craft effective teaching strategies is a process that demands significant mentoring skills. Kathryn described Jayne in action during a language/arts lesson and her own thinking:

> Jayne stopped the children at the tasks and said to me, 'What do you think, Miss A? Where do you think we should go from here?' I realized she was trying to get me to take a decision-making role in the lesson. I had several thoughts going on in my head, but wasn't confident about which one to draw on. Jayne must have seen me look a little confused and said, 'I have been watching Susie and think she might need a few more minutes to get those sentences completed. Right Susie? [Susie nodded]. I see that Joshua and Mike have finished the second side of their handwriting sheet. What are you planning to do next boys? [Boys responded]. I can see Peter is in the book look corner. Are you thinking about taking that book home? Then she said, "Some children need two more minutes to finish what they are working on? Are two or three minutes okay with your group Miss A?" I responded, two minutes would work. I understood what Jayne was showing me. She looked around the room for clues for what the child was doing, and then gave hints to me and the others as to how much time they had left to finish their work, and what else they could do if they were finished. She was encouraging them and me to make good decisions. (Journal entry, November 1999)

For the duration of the internship, the constant interchange of lesson delivery and control of the teaching proceedings between intern and mentor teacher encourages the intern to view the lesson and hear the children' s thinking from differing perspectives. This allows an intern extended space to further probe a mentor`s thinking, as well as their own. This aspect of the cyclical process is significantly different from traditional student teaching where a unidirectional act of handing over the reigns for each part of the curriculum happens at varying point in the experience.

The evidence from this study supports the assertion that this cyclical process of observing-teaching-reobserving-reteaching offers a novice teacher multiple opportunities to explore and make sense of the principles of teaching and learning. As they participate in this cycle, an intern is afforded spaces for assisting a mentor teacher in making explicit their tacit knowledge. When this occurs on multiple occasions, an intern can continue to question and gain insights into the reasons how and why a mentor teacher thinks, acts and decides. As Colleen reflected in an interview,

> I find an appropriate time to talk with my mentor – usually at DPA is a good time. I have thought about what I think is happening in her head. Then I give her clues as to what I think I need to know by asking questions. If she is not sure what I am asking, she questions me. As I talk about it my understanding about her thinking and teaching becomes clearer. I tell her the way I am interpreting it. Sometimes she agrees. Other times, she says, 'No that's not what I meant,' and clarifies it. Over the next few days, I observe her teach again. I noticed sometimes she does things differently again. I think this is because she is trying to make it really clear for me to understand what is going on with her ideas about how a particular part of a lesson should be taught. (Interview, December 1999)

<u>Assertion 3</u>: At the end of the internship experience, PDS interns attain a stage of preservice teacher development that is beyond 'mastery' (Sacks & Harrington, 1982). As they actively question and seek to understand their own and children's conceptual understanding, PDS interns explore how they effectively support and enhance children's learning.

The supporting evidence that has emerged from this study reflects the complex and developmental nature of learning about teaching, how to teach, and how to be a teacher. The teacher development literature presents varying ways of characterizing student teacher development. Sacks and Harrington (1982) offer a conceptualization of student teacher development that includes six stages: anticipation, entry, orientation, trial and error, integration/consolidation, and mastery. These researchers have proposed that as student teachers move through these stages, "there seems to be a discernible movement from the student teacher's perception of the professional self as an unsure apprentice to that of a confident teacher (Glatthorn, 1998, p. 380). Calderhead (1987) suggest that the latter stage of student teacher development focuses on experimentation, during which time a student teacher discovers his or her style of teaching.

Fuller and Bown (1975) suggest that new teachers experience a series of concern-based stages beginning with a 'preteaching and early teaching stages' (that focuses on self-centered concerns related to survival) and moving to a 'performance stage' (that focuses on concerns about students and their learning and curricular issues). As she supported her children's conceptual understandings, Kathryn described how her questioning skills had developed during the internship experience:

> I understand how to try to find out what a child is thinking. I know how to get inside their

> heads. I don't always know what they are thinking, but I question them until I understand, or at least understand enough to ask some more questions. I learned to think past their response, 'I don't know.' This needed me to understand how it is that I learn. The methods classes shook up most of my thinking. I realized that the way I learned in school, and the way I felt comfortable learning, was not the only way to learn. I was a good student and learned a lot by rote memorization. Not that I can remember much of those facts. I learned more in first grade this year than I recall from social studies at high school. The social studies and science methods courses allowed me to teach lessons that used technology and inquiry-based ideas. Math was somewhat different. I learned that even though I thought I was good at math, I really do not understand math conceptually. My conceptual understanding is getting clearer. I need guidance with this and will look for it next year. I learned how to intensively question a child to figure out what concepts of number sense he knew. Everyday I interviewed the children about what they knew, not only about math lessons. I learned the value of asking, 'Why do you think that? How did you get that answer?' (Interview, June 2000)

When she first started to teach at the beginning of the internship, Diana believed that she questioned the children. As she learned to teach, Diana realized how questioning a particular child gave her insights into how he or she made sense of a concept. As she explained,

> I learned to question an individual child, rather than only ever questioning all the children. Does that make sense? I used to ask a question to the whole class and assume if two or three of them responded with the answer, I expected then that they all knew and understood it. They could do it the way I was thinking in my head. I realized that all children do not think in the same way. They do not think like me. To understand them, I had to learn to think like them. To understand them, first I had to figure out the way I think. Now I question a child, not always children. Make sense? Every child can and does think in a slightly different way. (Interview, June 2000)

Similarly, Mark, Caran, Sally, and Colleen reported how their questioning techniques evolved. Rather than by trial and error alone, the PDS interns learned to question through focused observation and analysis of teaching practice with members of a mentoring community. Mark described his initial questioning as being focused on whether or not children understood what the activity required them to do:

> I asked them, 'Does everyone understand?' I asked for feedback about what they needed to do. I needed to know if someone had a problem. Then I walked around the classroom and told them they could ask me if they needed help. (Interview, December 1999)

As he talked with his mentor teacher and PDA, Mark realised,

> I was questioning their understanding of the task, not questioning their understanding of the concepts the task required them to learn. I only knew whether or not the children were doing the task, what they were doing. I did not know why and how they were doing it. Developing and asking *good* questions was very important for me to figure out what the children knew, ways to help them understand a concept, and finally, understanding what it was that they had learned. I learned to ask them what they were thinking, to trust

> their ideas. Coming up with good questions to use during a lesson is still a struggle for me. Figuring how to devise questions that lead the children from an abstract concept, like energy, and translating it to concrete examples, like to kick a football ten feet or fifty feet. 'Which takes more work?' Tim modelled for me questions that I can use to push the children to think of questions. (Interview, March 2000)

As he practiced composing questions, Mark experienced tension between devising a good question to drive a lesson and allowing his own and the children's questions that evolved during the lesson to take over the role of the original question. Mark valued the spontaneous discussions that emerged from the children's questions. However, feedback from his mentor teacher and PDA indicated that the lessons "dragged on" (Mark, Interview, March 2000). Therefore, Mark acknowledged that he needed to figure out ways to connect, and redirect, the children's questions and discussion to the lesson's objective. This required Mark to adjust his learning and teaching style to support the students' diverse learning needs.

From the analysis of the PDS interns' experiences, this study illustrates components of teacher development that take into account the individualized and complex nature of learning about teaching, how to teach, and how to be a teacher. Professional growth and development consist of:

- ✓ Mature understanding of children's conceptual knowledge through kid-watching and questioning
- ✓ Creating and sustaining classroom learning environments that support children's academic and social successes
- ✓ Being comfortable with the transient nature of one's teacher identity, and continuing to explore and question that identity
- ✓ Recognizing the value in trying different ideas and doing tasks differently in order to try to solve problems
- ✓ Considering how new problems become better questions
- ✓ Figuring ways to contribute to curriculum development and implementation
- ✓ Becoming an effective member of a community of educators and teacher educators where collegiality and collaboration are considered norms

Kagan (1992) premises that when and how development takes place depends on at least three factors: the preservice teacher's willingness to explore and change his or her beliefs and images of teaching and teachers; the structure of the preservice teacher preparation program; and the relationships that are nurtured within the context of the student teaching experience. This study reveals evidence that a PDS context for teacher preparation supports these three guiding premises. PDS interns are past struggling only with problems of personal and professional competence. While acknowledging that no one learns to teach in a year, the PDS interns have moved beyond the day-to-day survival, hit-or-miss solutions to problems, and intense feelings of inadequacy that teacher development research suggests characterizes the life of beginning teachers. PDS interns describe themselves "as confident and capable" (Diana, Interview, June 2000).

The following statements are considered descriptors that highlight the PDS intern's stage of teacher development at the end of the internship. First, PDS interns are comfortable with making sense of children's conceptual understanding. PDS interns demonstrate how to assess a child's learning, and can implement, extend and modify curricula to meet the needs of specific children. Second, they are able to function as a colleague and partner within the context of the classroom and school communities. Third, PDS interns have made a strong commitment to the education profession, and draw upon and contribute

to the varied resources of the school community. Fourth, they recognize a child's complexity and try different strategies to support that child's learning. Further, through enhanced 'kid watching skills,' PDS interns can demonstrate how and describe why they are meeting a child's needs more capably. PDS interns focus their teaching concerns on children's academic and social successes and can articulate their contributions to student learning. Last, PDS interns are better able to recognize and negotiate the tensions that the job and work of teaching bring.

Assertion 4: As they question curriculum and model inquiry to support children's learning, and raise their own and their children's voices, the PDS interns adopt a stance as teacher leaders.

As she used the process of inquiry to analyze her classroom practice and teaching philosophy, Colleen tested how congruent her beliefs and actions were. Colleen explored how her philosophy as a beginning teacher impacted the way she engaged her third graders students in classroom meetings:

> My belief is that my students should feel safe, respected, and significant in the classroom. They should feel that their ideas and opinions are valued. I also think that it is important for students to work together for the good of the classroom community as a whole. They must learn to cooperate and negotiate, and most importantly be compassionate of the needs of the other members of our community. I want my students to be empowered and responsible for decision-making. Most importantly, I want my students to be accountable for the choices that they make. (Colleen, Inquiry paper, May 2000)

Colleen's beliefs about giving children control over the agenda, conversations, and decisions made during classroom meetings were significantly different from her mentor teacher's:

> I am a firm believer that children in third grade are mature enough to begin making decisions in their classroom. The 25 children in my class right now can critically think and are responsible enough to make choices and decisions *and* follow through with them. Ideally, I would like to involve the students in more of the decision-making through class meetings, but it hasn't been that easy. I am much more comfortable than my mentor teacher with removing control from myself, and putting it into the children's hands and minds. (Colleen, Journal entry, March 2000)

> Students should feel like they have a significant voice in the classroom, and that they are an integral part of the community. When children are directly involved in classroom decision-making processes, they learn a variety of social skills, including cooperation, communication, respect, acceptance, open-mindedness, compassion, and negotiation. Recognizing how their decisions impact themselves and others is a powerful tool that children will take with them as they move through life. (Journal entry, April 2000)

Throughout the nine weeks of inquiry into class meetings, Colleen encountered some tension.

> Needless to say, it was a bumpy ride at times. The control issue was one tension that was never relieved. Who is in control? How much control am I willing to give up? Going along with the issue of control comes meeting the needs of myself as inquirer and my mentor as classroom teacher. I was very compassionate to the needs of my mentor teacher, though at times our needs may have differed. I wanted the students to take on

> more of the responsibility, while I was not always sure how comfortable my mentor would be with that. (Intern paper, May 2000)

Colleen sought spaces where she could help her mentor teacher witness a different perspective. Colleen modeled for her mentor teacher how to give children opportunities for decision-making and live with the community decision.

Diana, Kathryn, Jayne, and Margaret teamed up to develop inquiry-based lessons for an existing science unit. Diana described herself as a beginning teacher who is willing to participate in developing, and questioning, curriculum to support children's learning.

> Teacher leadership was modeled for me. Experience helps a teacher to be a teacher leader. Even though I am not an experienced teacher, I am a teacher leader. I am willing to take supported risks to help all children have more positive experiences at school. By supported, I can find people in my building to help me. Being a teacher leader does not mean being out on a limb on my own. It is working with an experienced teacher, like Jayne, to build new curriculum, or organizing a group to collaborate, or undertaking a 'school project. Being a teacher leader has greater impact on my children, when I can do it with others. (Interview, June 2000)

Further, Kathryn described her role as a beginning teacher in the development of curriculum.

> As a beginning teacher, it was my responsibility to question whether or not I could teach those lessons the way we designed them. I questioned whether I understood what Jayne was talking about. Will I be able to manage that lesson? Asking those questions was important because down the road when these new lessons become part of a unit that is accepted by the district, there will be different teachers implementing this. It not only affects me now, but also other people down the road. I wanted it to be beneficial for the children, and doable for teachers. (Interview, June 2000)

The PDS interns believed that making the effort to find something likeable about each child helped them to know, understand, and advocate for all children. "Teacher leaders do not complain in the lunchroom about a child that is dislikeable. They find something to like about that child and talk about it" (Caran, Interview, June 2000).

As they questioned curriculum content within a larger social context, the PDS interns cultivated "a nose for the unintentional curriculum" (Solitis, 1994, p. 249) that can reproduce social injustices and power. The PDS interns sought to understand what needs to be attended to in schools in order to work at relieving social injustices. For example, as Colleen and Caran planned the Festival of the Arts unit, they noted that the artists represented on the timeline approach devised by their mentor teachers were white, European males. These interns felt strongly that their students "needed to understand that it wasn't only in Europe and in the sixteen, seventeen, and eighteen hundreds that art was happening." Colleen introduced "the Harlem Renaissance" to the children.

> Karen [mentor teacher] really liked the way it worked out. The children were introduced to jazz. We listened to a lot of jazz and talked about what I felt they needed to know was the background knowledge to understand why there was such a thing as the Harlem

> Renaissance. Why people were moving from the South to Harlem in order to pursue a career in art or music? What was Harlem like at that time and what it was like in the Roaring 20's? We studied an African American artist named William Johnson and learned about what he wanted to do in his life. He visited Africa and the South where he was born, and used a lot of what he saw in those two places to influence his art. The children made a copy of his work and practiced creating different colors of skin. I wanted them to realize that the African Americans he drew in his paintings didn't all have the same skin color. I likened this to the way Caucasians don't all have the same pale skin color. Some are darker than others. Some are pinker than others. We looked at the different pictures in his paintings that I hung around the room. The children really did a great job mixing different colors to try and create the different people in their paintings. They tried to show that African Americans are not all the same color. (Colleen, Interview, June 2000)

This study realized the potential contributions that preservice teachers offer as researchers seek to understand the contextual implications of learning to teach in a culture that is nurtured by a school-university partnership. As spaces were created for novice teachers to share their experiences, the PDS interns highlighted their ownership of the program.

> I value this program. I feel it is part of my responsibility to help others understand what it is like to be an intern. I know what it feels like to learn to teach. I respect what the people involved in this program are trying to do. I want to share that – the good and the bad. I see ways that it could be better. The only way it is going to get even better is by talking about it. (Colleen, Interview, December 1999)

Conclusion

Psychologists and educators are currently proposing that "interactions in one's environment are major determinants of both what is learned and how learning takes place" (Putnam & Borko, 2000, p. 5). This view holds that what we accept and value as knowledge and how we think and articulate beliefs and practices result from the process of interactions of groups of people over time (Putnam & Borko). The evidence from this research bears testimony to a social process of learning to teach through which participants come to explore the thinking, and participate in, the practices of a particular community (Lave & Wenger, 1991). Learning about teaching and how to teach, and how to be a teacher in a PDS context, enabled the interns in this study to understand their roles as active newcomers and fully-fledged members of a professional community of practice. The interns recognized the transitory nature of their teacher identities. They were comfortable knowing that this would be reshaped as they entered their first and subsequent years of teaching.

Further, this study provides evidence that offering preservice teachers an alternative experience of learning to teach in a PDS context results in beginning teachers who portray different understandings of teaching and learning. The vision of school-university partnerships is based on the assumption that collaborative efforts to prepare new teachers "create learning opportunities that are different from and richer than the opportunities either the school or the university can provide alone" (Cochran-Smith, 1994, p. 149). The interns' year-long experience in a school-university partnership of "collaborative resonance" (Cochran-Smith) facilitated their substantive understanding of how schools work.

The goal of teacher educators is not simply to teach students how to teach, but to teach

> them how to continue learning within diverse school contexts by prolonging and intensifying the influences of university and school, both of which are viewed as potentially liberalizing. (Cochran-Smith, 1994, p. 150)

As partners, schools and universities offer contexts from which beginning teachers can emerge who know about teaching, how to teach, and how to be a teacher in a community of practice. This study profers that preservice teachers prepared in the context of a professional development school partnership develop deep understandings of teaching, how to teach, and what it means to be a teacher. PDS interns explore, nurture, and expand their teaching practices, thinking, and professional relationships in a community of multiple mentors. They engage in a cycle of observing-teaching-reobserving-reteaching that gives them opportunities to help their mentor teachers develop their mentoring skills. PDS interns become members of a community of professional educators in which collaboration is an accepted and valued norm for supporting children's learning and a teacher's professional growth. PDS interns feel comfortable questioning how a school functions as an organizational unit. As they question curriculum and model inquiry to support children's learning, and raise their own and their children's voices, PDS interns adopt a stance as teacher leaders. Researchers need to undertake comparative studies that explore ways in which PDS work shapes and affects the quality of teacher preparation. *How are preservice teachers prepared in PDS contexts developmentally different from those who participate in traditional student teaching settings? How does the tension between the job and work of teaching affect preservice teacher development? How do teacher educators facilitate mentoring skills for the mentor teachers, the interns and themselves?* Further, when they see themselves as members of a learning community in which their colleagues contribute to their understanding, PDS interns become beginning teachers who are instrumental supporters of children's learning. Future studies should focus on the impact that PDS work has on children's academic and social achievement. *How are children impacted by the presence of PDS interns who are learning to teach?*

In a community where learning is understood to be central to teachers' work, preservice teachers are encouraged to learn to teach with uncertainty and change. Research supports the understanding of this process as essential knowledge for teachers. It permits teachers to participate in reforms that attempt to change the nature of schooling (Grossman & Richert, 1996). *How do the experiences of preservice teachers change as the PDS community grows and changes? How do beginning teachers transfer this skill from the PDS context in which they learned to teach to the context in which they experience their first year of certified teaching? What patterns of teacher concerns do new teachers who have experienced a PDS preparation exhibit in schools where norms of collegiality prevail do not prevail?*

Finally, the contextual nature of PDS settings raises such questions as: *How do interns experience learning to teach in a PDS in an urban setting? How is a PDS learning community constructed? How does a PDS learning community change over time? What impact does restructuring the community have on preservice teachers' experience in a PDS context? What does a PDS learning community look like from different community members' perspectives? What different roles emerge as a PDS community grows and changes? How do these impact preservice teachers' experiences in a PDS? How are PDS learning communities sustained over time?*

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